Alaska Department of Fish and Game
Division of Wildlife Conservation
September 2002

Brown Bear Line Transect Technique Development

Earl Becker

Research Performance Report
1 July 2001–30 June 2002
Federal Aid in Wildlife Restoration
Grant W-27-5, **Project** 4.3

This is a progress report on continuing research. Information may be refined at a later date.

FEDERAL AID
ANNUAL RESEARCH PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

PROJECT TITLE: Brown bear line transect development

PRINCIPAL INVESTIGATOR: Earl Becker

COOPERATORS: Pham X. Quang, University of Alaska; Becky Strauch, Alaska Department of Fish Game

FEDERAL AID GRANT PROGRAM: Wildlife Restoration

GRANT AND SEGMENT NR.: W-27-5

PROJECT NR.: 4.30

WORK LOCATION: We conducted line transect surveys to estimate brown bear density in Game Management Unit 9D and Game Management Unit 10.

STATE: Alaska

PERIOD: 1 July 2001-30 June 2002

I. PROGRESS ON PROJECT OBJECTIVES

OBJECTIVE 1: Develop methods to speed up the random selection of transects.

OBJECTIVE 2: Refine the selection and measurement of covariates that are considered for use in the line transect model.

OBJECTIVE 3: Test the variability of the GPS units, and the pilot/observer team to accurately mark known locations.

OBJECTIVE 4: Obtain an estimate of brown bear population size in the selected study area.

OBJECTIVE 5: Preparation of reports and publications.

II. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD

JOB 1: Increase survey efficiency

Just prior to the field season, we purchased new software that should improve survey efficiency. We did not have a chance to use this software during this field season, but are optimistic that it will prove highly beneficial.

JOB 2: Increase data quality

We purchased new software that should improve data quality. We did not have a chance to use this software during this field season, but are optimistic that it will prove highly beneficial.

JOB 3: Obtain population estimates

Two bear surveys were planned, one to complete an on-going bear survey of the greater GMU 13E study area, and the other to survey the tip of the Alaska Peninsula (GMU 9D and 10). A line-transect bear survey for GMU 9D and GMU 10 was conducted this spring. We flew 12,360.6 km along 609 transects, along which we observed 382 brown bear groups containing a total of 673 bears. A delayed spring in GMU 13E caused bears to remain in their dens during the 9-day window we had to complete the survey in that area. This survey could not be pushed back because of conflict with the timing of the Alaska Peninsula survey. Rather than collect bad data we postponed this survey until next spring.

III. ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD

I wrote a draft report on the southern GMU 26B bear survey, this document is currently under internal review. I worked on analyzing the northern GMU 9B line transect data. I am in the process (85% complete) of writing a draft report on the northern GMU 9B survey. I started analyzing the GMU 9D and GMU 10 survey data.

IV. PUBLICATIONS

V. RECOMMENDATIONS FOR THIS PROJECT

I recommend that the division utilize this procedure to estimate bear density for areas of special management concern.

VI. APPENDIX

VII. PROJECT COSTS FOR THIS SEGMENT PERIOD

FEDERAL AID SHARE $ 65,672 STATE SHARE $ 21,891 = TOTAL $87,562

VIII. PREPARED BY:

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Biometrican III

APPROVED BY:

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Thomas W. Paul
Federal Aid Coordinator
Division of Wildlife Conservation

SUBMITTED BY:

Earl F. Becker
Acting Research Coordinator

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Wayne L Regelin, Director
Division of Wildlife Conservation

APPROVAL DATE: _____